

PESP



UPDATE

NEW MEMBERS

PARTNERS

Brookfield Zoo
Clemson University Public Service
& Agriculture
Fischer Environmental Services Inc.
Kyrene Elementary School
Michigan Asparagus Research, Inc.
United States Sugar Corporation

SUPPORTERS

American Bird Conservancy
Pesticides & Birds Campaign
Meligolf LLC
National Pesticide Stewardship
Alliance

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NEW TOUR LOOKS AT NORTH CAROLINA APPLE ORCHARDS AND IPM

A new Southern Appalachian Apple IPM Tour was conducted August 27 - 29, 2001, by the North Carolina State University Cooperative Extension IPM Program, with financial support and participation from Gerber Products, Inc.

EPA was represented on the tour by Jean-Mari Peltier, Agricultural Advisor to the Administrator (see p. 2), and Steve Johnson, Assistant Administrator, Office of Prevention, Pesticides, and Toxic Substances (OPPTS). Johnson was confirmed as Assistant Administrator by the Senate in June 2001, after serving in management positions such as Deputy Assistant Administrator of OPPTS and Director of the Office of Pesticide Programs (OPP) during his 20-year career at EPA.

Jim Jones (Deputy Director, OPP), Lora Lee Schroeder (EPA Region 4, Pesticides Division) and Sherry Glick (OPP, Biopesticides and Pollution Prevention Division) also attended the tour, along with USDA staff and local extension agents.

The goal of the Southern Appalachian Apple IPM Program is to grow apples in North Carolina without applying organophosphate pesticides. Gerber, a key partner in this program, is providing financial incentives for growers to replace organophosphates with alternative products. NC State University is providing most of the pest management support, including scouting and news dissemination.

While the majority of the apples grown this year were intended for

processed foods such as juice and baby foods, some apples were grown for the fresh food market, as well.

Most growers participating in the Apple IPM program experienced



success this year. In fact, only five percent of acres in the program were treated with an organophosphate pesticide (to control the apple maggot).

The alternative control system allows the use of pheromone ties to disrupt insects from mating, two *reduced-risk*, synthetic pesticides (indoxacarb and tebufenozide), and one conventional pesticide (fenpropathrin), which is not an organophosphate.

Growers who chose not to participate in the Apple IPM program cited concerns such as the cost of reduced-risk insecticides—about twice the costs of organophosphates on an annual basis—and that they require a much higher level of grower sophistication. They cautioned that if you miss a critical date when using a reduced-risk product, you jeopardize your entire crop.

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NEW APPLE TOUR

(CONTINUED FROM PAGE 1)

North Carolina growers have designed an effective pest management system for both fresh and processed apples that requires minimal organo-phosphate use. At this time, the system is dependent upon the economic incentives offered by Gerber and other food processors that pay more for commodities that can be marketed as either *organic* or *IPM-grown*.

Following its success with apples, Gerber is starting an IPM program for sweet potatoes in North Carolina.

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ADMINISTRATOR WHITMAN APPOINTS NEW COUNSELOR ON AGRICULTURE POLICY

In May, EPA Administrator Christie Whitman appointed Jean-Mari Peltier, formerly President of the California Citrus Quality Council, as her Counselor on Agriculture Policy. According to Administrator Whitman, "Jean-Mari Peltier will help enhance communications with non-agency agricultural groups." As the central contact for EPA coordination with the USDA, Peltier works on joint policy, cooperative efforts between agency staff, and other interagency issues.

The new advisor follows Congressional activities related to agricultural

issues. A member of the U.S. delegation to the Codex Committee on Pesticide Residues, Peltier has a strong interest in the international harmonization of pesticide standards.

Prior to joining the California Citrus Quality Council, Jean-Mari Peltier was Chief Deputy Director in the Department of Pesticide Regulation for the California Environmental Protection Agency. In that capacity, Peltier oversaw day-to-day operation of the pesticide regulatory program.

Peltier developed and expanded a program of grants and alliances to develop economically feasible and environmentally friendly solutions to agricultural and urban pest management problems.

In addition, Peltier represented California on the implementation of the Food Quality Protection Act through the Tolerance Reassessment Advisory Committee and represented the state in pesticide harmonization negotiations under the North America Free Trade Agreement.



2002 STRATEGIES DUE ON FEBRUARY 15

In past years, PESP strategies were submitted during the summer in advance of the federal fiscal year (October 1 - September 30). In response to feedback from our Members, EPA is changing the submission date and the strategy time frame to correspond with the calendar year. In an upcoming letter to all PESP Members, EPA requests that strategies be submitted by February 15, 2002.

The PESP Management Team hopes that this new schedule will better meet the needs of our Partners and Supporters. We understand that growers and pest control operators are most active during the summer season, and we hope that our Members have more time to reflect on the past year and develop strategies for the coming year during the winter.

New strategy guidance will request Members to develop strategies that do not only plan future activities, but also include objectives that estimate IPM implementation (e.g., percentage of acres participating) and risk-reduction (e.g., reduced use of a particular pesticide). These objectives should be based on a model appropriate for the given crop or sector. Such measurable objectives will facilitate the development of annual reports that can demonstrate an organization's progress over time in furthering the adoption of IPM practices and the reduction of pesticide risk.

"As Counselor to the Administrator, I will strive to integrate the concerns of the agricultural community when making important decisions about how best to protect our natural resources.

Voluntary partnerships such as the Pesticide Environmental Stewardship Program offer a valuable means to providing information to and receiving feedback from our stakeholders. I would like to see new partnerships forged with the agricultural community and existing partnerships strengthened."

-- Jean-Mari Peltier



CONSUMER EDUCATION CAMPAIGN REPORTS SUCCESS IN CALIFORNIA

Is the IPM approach only suited for private farms and public places such as schools and parks? Can a community or a region use IPM practices to prevent its natural resources from being polluted? Based on the experiences of the Central Contra Costa Sanitary District (CCCSD) in using IPM to protect the threatened San Francisco Bay, the answer to these questions is YES.

According to a CCCSD study, 60% of the pesticides found in the water in the district are from residential use. Household, lawn, and garden pesticides, such as diazinon, run-off into streams that flow into the bay, posing risks to birds and other sensitive, aquatic wildlife.

To improve water quality and protect wildlife, CCCSD decided to target residential pesticide users within the community and convince them to practice IPM around the home and garden. The agency worked with stores that sell home and garden pesticides to offer less toxic products and information on IPM to their customers.

With financial assistance from the

National Foundation for IPM Education, CCCSD created a pilot partnership with stores in 1997, leading to a 3-year grant from the State of California to expand the program to cover more of the San Francisco Bay Area.

Today a regional partnership is coordinated among nine Bay Area water agencies and involves over 100 stores. The water agencies provide lists of less toxic products to participating stores so they can be stocked.

Shelf-talkers mark the less toxic



products, and *aisle end-cap displays* highlight the messages and products. Fact sheets are displayed for customers to take, and store employees are trained to answer questions about pollution prevention. Master Gardeners are trained to give IPM workshops to the public, and pest control operators are receiving IPM training, as well.

In the Bay Area region, the promotion of less toxic products and their connection to water quality were publicized by interviews on TV and radio stations, radio public service announcements, and newspaper articles.

The program is achieving success. Sales data collected one year after the regional partnership showed a 19% increase in less toxic products and a 12% decrease in organophosphate (OP) products.

For more information, please access the website, www.centralsan.org, or call 925-229-7310 for a *How to Manual*.

GLADES LOOKS AT INDICATORS FOR MEASURING PESTICIDE RISK REDUCTION

PESP Supporter, Glades Crop Care, Inc. of Jupiter, Florida, has demonstrated a methodology for indicating pesticide risk reduction for a commodity, in this case Florida fresh tomatoes. Glades used data from USDA's 1998 Pesticide Data Program (PDP) Report and a "toxicity index" for calculating chronic dietary "toxicity units."

A review of USDA's PDP data indicated that 26 pesticide active ingredients and metabolites were found on Florida fresh tomatoes in 1998. Glades calculated the percent of fresh tomato samples that tested positive for

each active ingredient and the mean residue level for each positive sample.

The toxicity index was based on the EPA chronic reference dose (RfD), an estimate of the level of exposure to a pesticide that is believed to have no significant harmful effects if the exposure occurred daily over a 70-year life span. Glades used EPA's chronic RfD as an indicator of possible risks associated with lifetime dietary exposure to very small residues of pesticides in fresh tomatoes.

In the formula, the RfD is inverted so that the values of the toxicity index

rise with toxicity rather than fall. The toxicity units for each pesticide were calculated as follows:

$$\begin{aligned} &\% \text{ positive samples} \\ &\times \text{mean of positive residues} \\ &\times 1/\text{RfD of pesticide} \\ &= \text{Toxicity Units} \end{aligned}$$

Of the 26 pesticide residues identified by PDP, two organophosphate pesticides, methamidophos and chlorpyrifos, accounted for 87 percent of the total toxicity units for all of the 26 pesticide residues. The total of the toxicity units was 118.57 points.

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PROJECT HABITAT PROTECTS WILDLIFE UNDER ELECTRIC POWER LINES

Project Habitat is demonstrating how integrated vegetation management (IVM) can improve wildlife habitats in areas under electric power lines (also known as right-of-way) and help preserve biodiversity. IVM allows the application of low volume, selective herbicides.

This project was conducted by Virginia Polytechnic Institute & State University, with financial support from BASF Corporation, Quail Unlimited, National Wild Turkey Federation, Butterfly Lovers International, and Buckmasters.

The findings of *Project Habitat* were highlighted in September 2001 by a field tour during the 47th Annual Meeting of the Mountain Lake Vegetation Management Council in Richmond, Virginia.

The project covers 38 demonstra-

tion plots, each of which is associated with a different management strategy and varying results in protecting wildlife and plant biodiversity. Seven different herbicides and mowing techniques were used in various combinations, sequences, and rotations to determine their impact on habitats.

The species of wildlife under observation included bobcat, eastern cottontail

rabbit, bobwhite quail, wild turkey, white-tailed deer, and various species of song birds, raptors, butterflies and other insects.

In general, selective herbicide treatments were found to be preferable to mowing weeds and even improved the diversity of plant species favored by wildlife. The most effective herbicides

controlled woody, high growing plants, such as sweet gum, oak and hickory, while they allowed low-growing plants, such as lespedeza, forbs, brambles and legumes, to flourish and feed wildlife.

By comparison, mowing destroyed habitat, encouraged ground compaction, and contributed to soil erosion. When herbicides were used in low volumes, even rare plant species survived; for example, Epling's hedgesnail, Larkspur-leaved tickseed, and brown bog sedge.

Project Habitat recommends that utility companies evaluate wildlife and their indigenous food sources in right-of-way areas, devise appropriate wildlife objectives for each right-of-way, and implement IVM programs that realizes these objectives, thereby protecting habitats as best they can.

For additional information on the project, visit their website at www.4vegmgmt.com/ivpg/habitat/habitat.asp



GLADES (CONTINUED FROM PAGE 3)

Examples of the values for chlorpyrifos and methamidophos are as follows:

Active Ingredient	Samples (no.)	Positives (no.)	Chronic RfD (mg/kg/d)	Max. Residues of Positives (ppm)	Positive Samples (%)	Mean of Positives (ppm)	Toxicity Units
Chlorpyrifos	177	8	0.0001	0.07	4.52	0.03	16.95
Methamidophos	177	36	0.0001	0.10	20.34	0.03	90.69

Glades used toxicity units to identify the pesticides and pesticide types (insecticides accounted for 99.5 percent of all toxicity units) which would lead to the greatest reduction in risk when replaced by safer alternatives. By monitoring trends in total chronic toxicity units over time, Glades offers a method for quantifying dietary risk and risk reduction for a particular commodity.

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IPM IN SCHOOLS PILOT PROJECT TAKES OFF ON NAVAJO RESERVATION

EPA's Office of Pesticide Programs and the Department of the Interior's Bureau of Indian Affairs (BIA) initiated a Tribal Integrated Pest Management in Schools project in May 2001 on the Navajo Indian Reservation in Arizona.

A kick-off meeting at the Eastern Navajo Agency (ENA) Facility offices was led by Mark Lame (project coordinator and IPM in schools consultant) and attended by Navajo EPA, BIA facility managers, and a contracted pest control operator.

Three BIA schools were chosen for the project – Crown Point Community School, Lake Valley School, and Mariano Lake School.

During the initial meeting, the conditions/elements necessary to implement a successful program were discussed. They included a committed school administration, an on-site program manager, opportunity for conducting an audit (documenting current pest problems, pesticide use, and cost of pest management), and training of facility personnel. On-site implementers of the program included Bob Villarreal, ENA Facilities Manager, Chad Bourgoin, ENA Environmental Specialist, and Robert Begay, a pest control operator.

If successful, the program could be expanded Reservation-wide with additional help from Debbie McBride (BIA), Herb Holgate, Jeff Biakeddy, and Calvert Curly (Navajo EPA) and Laverne Gene (EPA Region 9.)

The BIA schools and dorms will serve as IPM models. The facilities are in good condition regarding maintenance and sanitation, a testament to

above average facility management and frequent Indian Health Service inspections. Inspectors are very concerned about disease transmission (particularly Hanta virus) and the sanitation and rodent exclusion necessary for prevention.

Based on interviews, discussions, and a cursory inspection, pest pressures were determined to be relatively low. Flying insects and spiders (bees, wasps, and house flies) were not a problem in terms of presence or tolerance, and roaches were non-existent.

This location has a very dry climate and is at a high altitude, reducing the incidence of traditional structural pests. Harvester ants and what residents call

“sugar ants” were present and considered pests.

There were active head lice and bedbug infestations. Vertebrate pests (rodents) did not seem to be a major problem. Their historic pest control centered on a bimonthly, scheduled application of a pyrethroid and the placement of mouse baits.

The pilot sites show great potential to demonstrate drastic pesticide risk reduction that can be achieved under these conditions.

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EPA CREATES NEW WEB SITES ON PARTNERSHIPS AND IPM

EPA's Biopesticides and Pollution Prevention Division has created two new web sites to inform our stakeholders of how EPA and our partners are promoting safer pesticide use and the adoption of integrated pest management. The web sites also instruct pesticide users and organizations with an interest in safer pesticide use on how they can either partner with EPA or adopt IPM practices on their own.

Partnerships for Reducing Pesticide Risk, www.epa.gov/oppbppd1/partnerships, highlights the achievements of PESP and some of our other partnership programs. It contains links to partner web sites and other valuable sources of information.

Integrated Pest Management, www.epa.gov/oppbppd1/ipm, explains EPA's approach to IPM to both those who are experienced with IPM and those who are not familiar with the subject but want to learn more about safer forms of pest control. It contains links to other sources of information, such as how to practice IPM for specific agricultural uses, in schools, or even around the home.

We encourage our PESP Members to visit both of these sites. Please let us know if you have any comments or suggestions.



PILOT TECHNICAL RESOURCE CENTERS FOR IPM IN SCHOOLS AND DAYCARE CENTERS

One of EPA's priorities is protecting children from unnecessary exposure to pesticides that are used in their schools. EPA is

encouraging school officials to adopt integrated pest management practices to reduce

children's exposure to pesticides.

Last spring, EPA awarded two \$100,000 grants to establish regional Technical Resource Centers to promote the adoption of IPM programs in schools and daycare centers. The grants were awarded to Purdue University and Texas A&M University. These cooperative programs will help reduce children's and infants' exposure to harmful pests and pesticides.

The Centers are providing a variety of resources to help develop IPM programs in schools and day care centers across nine states. Purdue is supporting Illinois, Indiana, Michigan,

Minnesota, Ohio, and Wisconsin while Texas A&M is supporting Texas, Oklahoma, and New Mexico.

Resources offered by each center include a toll-free hotline, training programs, educa-

tional and technical materials available on the Internet, a variety of informational publications, program support, and access to an extensive network of existing IPM knowledge and expertise.

IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with

available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

EPA is also helping schools understand and implement IPM through the distribution of printed publications, awarding other grants to start IPM programs, providing guidance, and offering assistance through partnerships with universities and national associations.

Visit www.epa.gov/pesticides/ipm for more information.

"Childhood exposure to pesticides is an environmental health risk facing children today. We are very focused on helping communities address this problem."

- Christie Whitman, EPA Administrator

Texas A&M University
schoolipm.tamu.edu
877-747-6872

Purdue University
www.entm.purdue.edu/entomology/outreach/schoolipm
877-668-8IPM (877-668-8476)

EPA RENEWS REGISTRATIONS FOR Bt CORN AND COTTON

This fall, EPA announced its decision to renew the registrations of Bt corn and cotton. These *reregistrations* allow growers to use Bt corn for seven more years and Bt cotton for five more years. This decision followed an intensive, 18-month evaluation.

A Bt crop contains a gene from

Bacillus thuringiensis (Bt), a common soil microbe, which allows it to naturally protect itself against insect pests such as the European corn borer, in the case of corn.

Since 1995, growers have experienced the benefits of Bt corn, cotton, and potato crops—decreases in chemi-

cal insecticide applications, worker exposure and residues on food, and increases in crop yields and grain and fiber quality.

During the past few years, a growing controversy concerning the use of biotechnology in food production and the Bt crops, in particular, created

uncertainty for growers as to the marketability of their crops

and the future of this important pest control tool.

Of the three Bt crops, corn received the most media attention and public scrutiny after a laboratory study

"Bt corn has been evaluated thoroughly by EPA, and we are confident that it does not pose risks to human health or the environment."

Steve Johnson, Assistant Administrator
Office of Prevention, Pesticides, and Toxic Substances



published in 1999 raised concerns that the Bt corn could be harmful to Monarch caterpillars, which feed on milkweed in and near corn fields. However, studies published this year in the Proceedings of the National Academy of Sciences found that there is not significant risk to Monarchs.

Under the conditions of the

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GREENHOUSE IPM IN PENNSYLVANIA

Pennsylvania has experienced a surge in the production of ornamental plants and vegetables in greenhouses in the last 10 years. With support from PESP (EPA Region 3 Initiative Grant), the Pennsylvania Department of Agriculture and the Pennsylvania State University Integrated Pest Management Program (PAIPM) have successfully developed a pilot program to help greenhouse growers in Pennsylvania adopt IPM methods of pest control.

Through this program, growers are provided with hands on instruction on various aspects of IPM including identification and biology of key insects and diseases, scouting techniques, biological control, sanitation and record keeping. This one-on-one approach has focused on growers of greenhouse vegetables, ornamental plants, and herbs.

Greenhouse vegetable growers were particularly successful in implementing biological controls for control of aphids, whiteflies and spider mites. General predators such as lady beetles and lacewings were used as well as parasitic wasps (*Encarsia formosa* and *Aphidius ervi*) and predatory mites (*Phytoseiulus persimilis*). Growers were taught how to monitor the effectiveness of the biological controls after introduction in the crop.

A pesticide-free environment allowed for the introduction of bumble bees to pollinate vegetable crops, replacing the mechanical vibration method. Several growers generated greater profits marketing their vegetables as "pesticide free" and tomato shape and quality were improved.

Ornamental plant growers who have lower tolerances for pests realized benefits through weekly scouting, learning pest life cycles and spraying at appropriate times for best pest control. Biological controls such as beneficial nematodes (*Steinernema feltiae*) replaced soil applications of insecticides to control fungus gnat larvae, a very

destructive greenhouse pest.

Weekly spray programs were replaced by preventive scouting and spot spraying when pest levels reached a threshold of concern. Controlling pest problems at these levels has resulted in a significant reduction in pesticide use. These growers learned how to incorporate reduced risk



One example of successful biocontrol is Encarsia formosa (pictured) for control of greenhouse whitefly. (Photo: M. Hoddle, UC-Riverside)

compounds into their spray program, thus replacing or reducing the use of traditional pesticide classes.

In addition to working with commercial growers, the program has

involved vocational agriculture schools, university research houses, horticulture trade related colleges and garden centers. As a key to educating future green industry personnel about IPM, Pennsylvania vocational agriculture schools and the Pennsylvania College of Technology have implemented IPM methods in their teaching and commercial greenhouses.

Many of these schools had been dependent on sprays and fogs of traditional pesticide groups. Teachers, greenhouse managers and students are learning how to make the transition from a chemical based pest control program to an IPM approach with special emphasis on understanding pest life cycles and introducing natural enemies.

Lana Baker, greenhouse manager for Pennsylvania College of Technology states, "Our transition to using IPM techniques, especially biological control has resulted in a drastic drop in our pesticide use. We have a safer, more accessible facility for student use."

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NEW PESP BROCHURE: SHORT AND SWEET

EPA has updated the PESP Brochure to reflect the presence of a new Administration. The cover shows a quote by EPA Administrator Christine Todd Whitman and grapes growing on the vine. In addition, the brochure was reduced from letter size (8.5"x 11") into a tri-fold that fits inside a standard envelope, and the text was shortened to fit within the confines of a tri-fold and still leave space for graphics.

Since the PESP web site contains more detailed information about the program, the brochure directs readers to our web site. Yet, the brochure still contains enough basic information to serve as a "stand alone" document for people who are new to the program, whether they are potential PESP members or environmentally-aware members of the public.

For copies of the PESP Brochure, please contact Michael Glikes at (703) 305-6231; glikes.michael@epa.gov.

BT REGISTRATION RENEWALS (CONTINUED FROM PAGE 6)

renewed registrations, growers must sign contracts with the registrant requiring them to practice insect resistance management including planting refuges of conventionally bred varieties. For example, 20% of corn acreage must be planted with non-Bt corn seeds.

Registrants are required to monitor use the insect pests to ensure that they are not developing resistance to Bt, conduct a compliance program to

ensure farmers are planting the required refuge to reduce the potential for resistance development, implement a remedial action plan if resistance does develop, and conduct additional research.

EPA's decision on the continued use of Bt crops does not apply to StarLink, the biotech corn variety that was withdrawn from the market last year after its discovery in the food supply led to recalls of taco shells and

other products. StarLink was never approved for food use because of unresolved questions about its potential to cause allergic reactions.

For more information on Bt registrations, see EPA's biopesticides website:

www.epa.gov/pesticides/biopesticides

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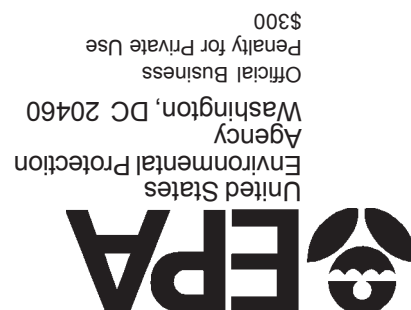
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PESP E-Mail: pesp.info@epa.gov
You may reach all EPA personnel by e-mail at: lastname.firstname@epa.gov
National Foundation for IPM Education's PESP Website: www.pesp.org

PESP Update is a publication containing information about and for the members of EPA's Pesticide Environmental Stewardship Program.



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